

Contact: Jim Dawson
Telephone: (02) 9228 4396

Dr Boxall
Review of our WACC method
Independent Pricing and Regulatory Tribunal
PO Box K35
Haymarket Post Shop NSW 1240

Dear Dr Boxall

Response to request for submissions on IPART's issues paper, "Review of our WACC method"

NSW Treasury is the owner of a number of regulated utilities that are subject to IPART's oversight and will be affected by any changes to IPART's WACC methodology. These utilities are:

- Sydney Water Corporation
- WaterNSW
- Hunter Water Corporation
- Essential Water

This submission addresses two matters raised in your consultation paper that are of particular concern to the State.

Firstly, NSW Treasury recommends a change to the cost of debt calculation to a 100% trailing average approach, i.e. using historical averages that are updated periodically during the determination period. We view this approach as reflecting efficient debt management practices and indicative of what a benchmark entity in a competitive environment would follow. Secondly, NSW Treasury recommends the use of physical breakeven inflation measures to deflate nominal yields to real yields as this reflects where a utility can actually borrow funds in real terms. Both the nominal yield and break even inflation measures need to be determined at the same point in time to maintain consistency.

NSW Treasury is supportive of the submissions from the state owned utilities and will rely on them to present their views on points not raised in this submission. NSW Treasury welcomes the opportunity to provide its view on the IPART Issues paper and looks forward to working with IPART in the future.

Yours sincerely



Jim Dawson
Executive Director, Commercial Assets

Attached: Submission on IPART's issues paper, "Review of our WACC method"

Cost of Debt

Question 6: *Should we continue to set a single cost of debt for the regulatory period, or should this cost be updated during the period? If we set a single cost of debt, should it be adjusted to reflect future interest rate expectations using forward interest rates?*

Question 7: *Do you agree with our preliminary view that we should continue to use a combination of current market data and historical averages to estimate the cost of debt? If so, do you think we should place more weight on either of the two approaches?*

Questions 6 and 7 are intimately related and need to be answered together. Treasury recommends the cost of debt be based solely on a trailing average basis. In the absence of regulation, evidence suggests a business with a staggered maturity for their debt portfolio is consistent with efficient debt financing and risk management strategy. As charts 1 and 2 show, businesses, both domestic and international, use a staggered maturity profile for their debt portfolio.

The ACCC has pointed out, "When determining a new regulatory cost of debt approach, debt practices which are a product of the regulatory environment should be ignored... Ideally, the regulatory framework for the cost of debt should reflect the efficient debt practices that occur in a competitive market."¹ If there is no evidence that unregulated businesses take a similar approach in managing their debts, it reveals inefficiency in the way the debt portfolio is managed.

In the ESCOSA's report to the treasury on cost of debt, ENCOSA state "since a prudent and efficient regulated business of the scale and with the obligations of SA Water is expected to periodically issue long-term debt in order to minimise refinancing risk. The approach lowers risk to shareholders and should reduce the overall cost of capital in the long term, thus leading to long term lower prices for consumers".²

The trailing average portfolio approach allows a service provider—and therefore also the benchmark efficient entity—to manage interest rate risk arising from a potential mismatch between the regulatory return on debt allowance and the expected return on debt of a service provider without exposing itself to substantial refinancing risk. Thus, we consider that holding a (fixed rate) debt portfolio with staggered maturity dates to align its return on debt with the regulatory return on debt allowance is likely to be an efficient debt financing practice of the benchmark efficient entity under the trailing average portfolio approach.³

¹ ACCC Regulatory Development, Estimating the Cost of Debt: A Possible Way Forward, April 2013, p.11.

² Essential Services Commission of South Australia, SA Water Regulatory Rate of Return 2016-2020 – Final Report to the Treasurer, March 2015, p.29.

³ AER, Better Regulation – Explanatory Statement Rate of Return Guideline, December 2013, pgs. 108 & 109.

Chart 1: Sample of Domestic Businesses employing a staggered debt profile

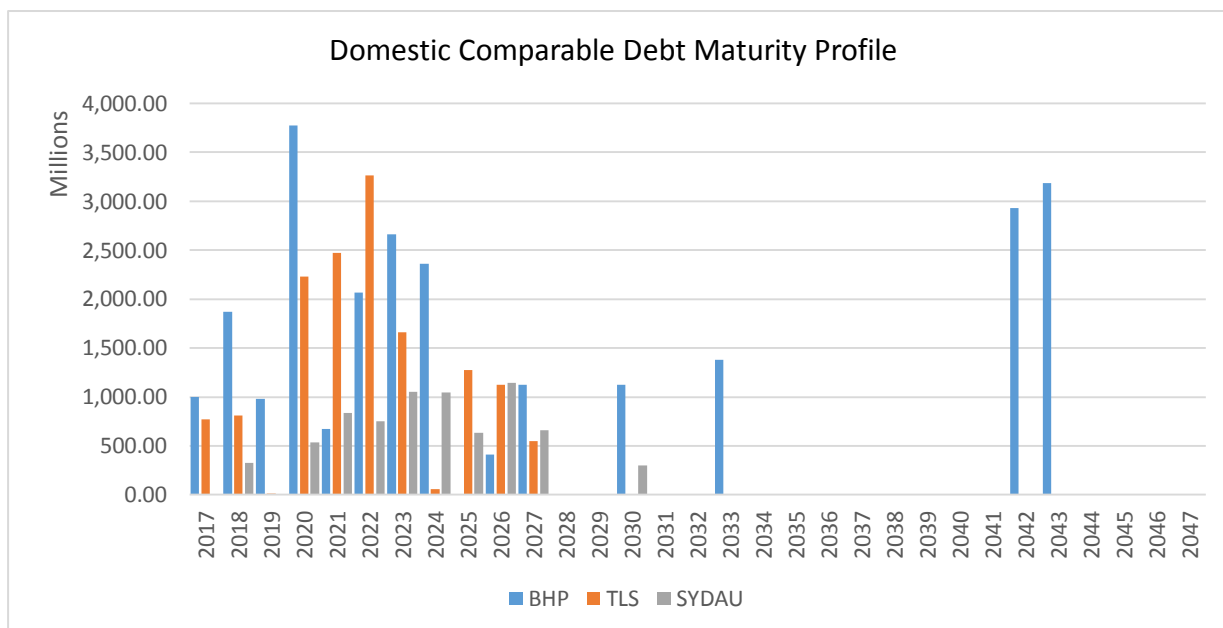
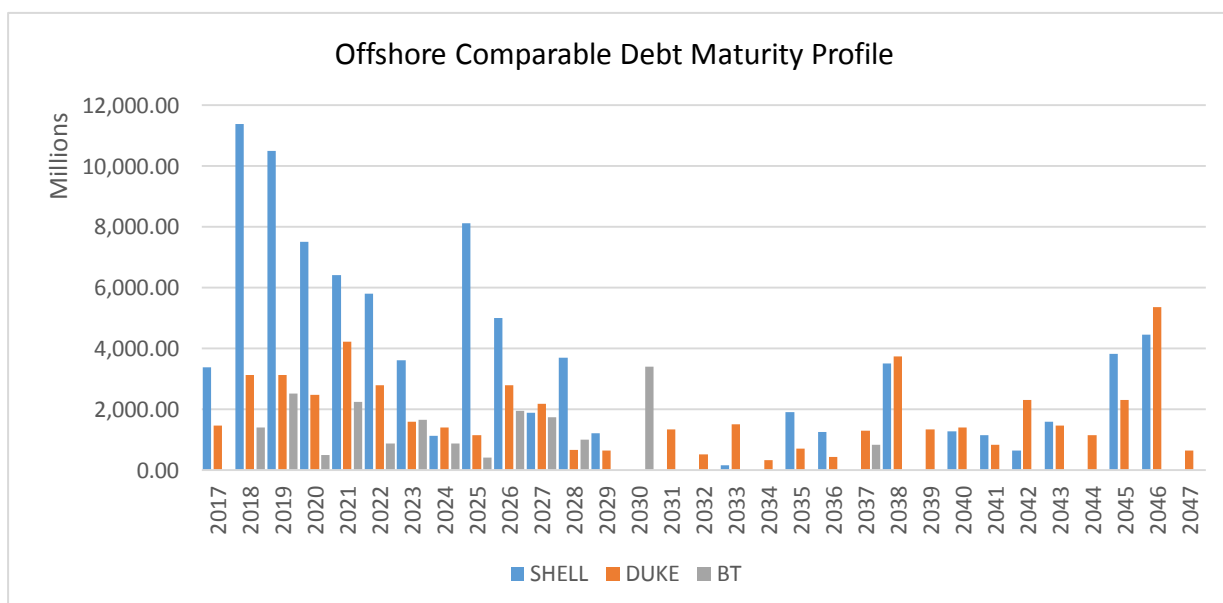
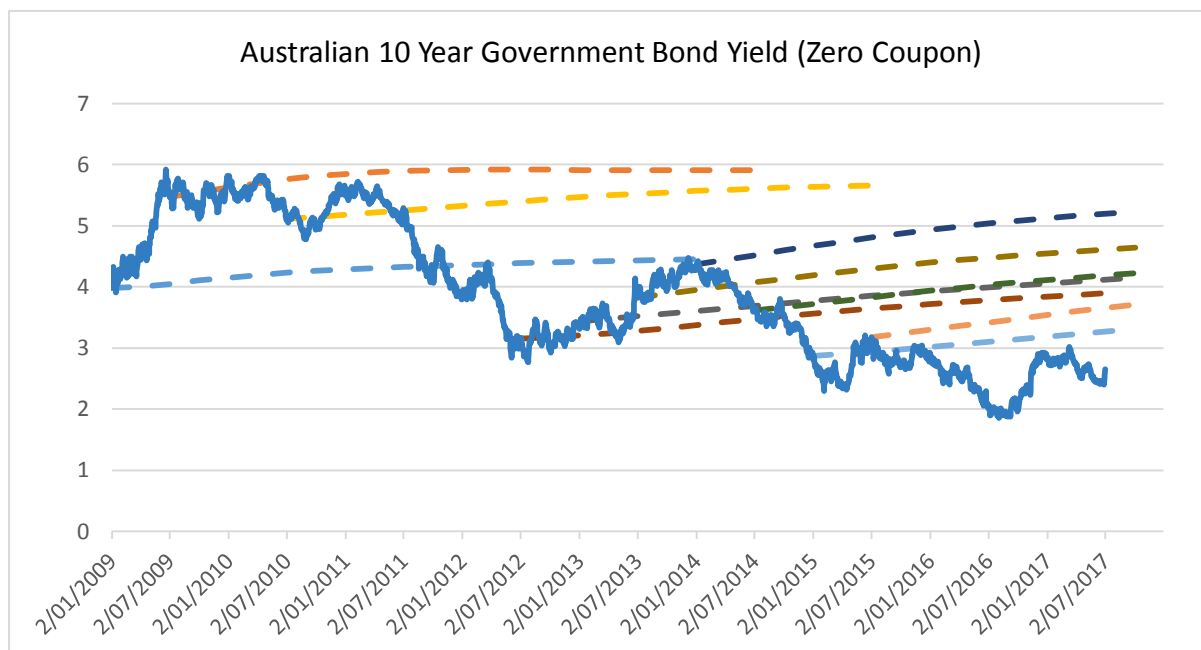


Chart 2: Sample of International Businesses employing a staggered debt profile



The staggered maturity can be replicated using a trailing average or a historical average approach with the averaging period matching the assumed tenor of the debt. The difference between the trailing average and historical approaches is in the treatment of new or refinanced debt and maturing existing debt. The cost of debt in the trailing average approach is updated annually to reflect assumed borrowing and maturities during the determination period. Treasury would recommend that the cost of debt is adjusted intra-period as in the trailing average approach. If the historical average approach is chosen, Treasury would recommend a true-up adjustment at the end of the determination period occur to reflect actual interest rates. Any estimate of future interest rates is likely to be wrong and needs to be corrected at the end of the determination. The chart below illustrated the magnitude of the errors when using forward rates to calculate expected interest rates as proposed suggested by IPART. For instance, the spot yield curve from January 2014 predicted the 10 year government bond rate for January 2017 to be 5.16%. The actual rate 10 year government rate that eventuated in January 2017 was 2.80%.

Chart 3: Using the Spot Curve to forecast future interest rates



The TAA or HA (with true-up) allowance:

- Allows the business to replicate this approach with physical debt issuance and avoid the additional costs of derivatives
- Matches efficient debt management practices of non-regulated businesses (charts 1 & 2)
- Minimises the mismatch between debt allowances and debt costs
- Reduces price volatility to consumers (chart 4)
- Has domestic and international precedent: AER, Ofgem, Ofwat, ORR, CAA (Hybrid HA approach), CMA⁴, ESCOSA⁵, ESCV⁶

The use of current market data (On the Day or OTD approach) implies that the business issues debt at the start of the regulatory period with a maturity at the end of the regulatory period. The OTD approach forces extreme refinancing risk on the business. In the case of IPARTs methodology, a business would need to refinance 55% of their portfolio during the 40 day averaging period at the start of each determination, 50% for the OTD portion and 5% for the HA portion. The business, investors and the credit agencies regard the financing profile of the businesses debt portfolio to be a central concern.

“... all else being equal, we view a company with a shorter maturity schedule as having greater refinancing risk compared to a company with a longer one.”⁷

⁴ Cambridge Economic Policy Associates Ltd, Alternative Approaches to Setting The Cost of Debt for PR19 and H7, August 2016, pgs. 239,243,246,249.

⁵ Essential Services Commission of South Australia, SA Water Regulatory Rate of Return 2016-2020 – Final Report to the Treasurer, March 2015, p.29.

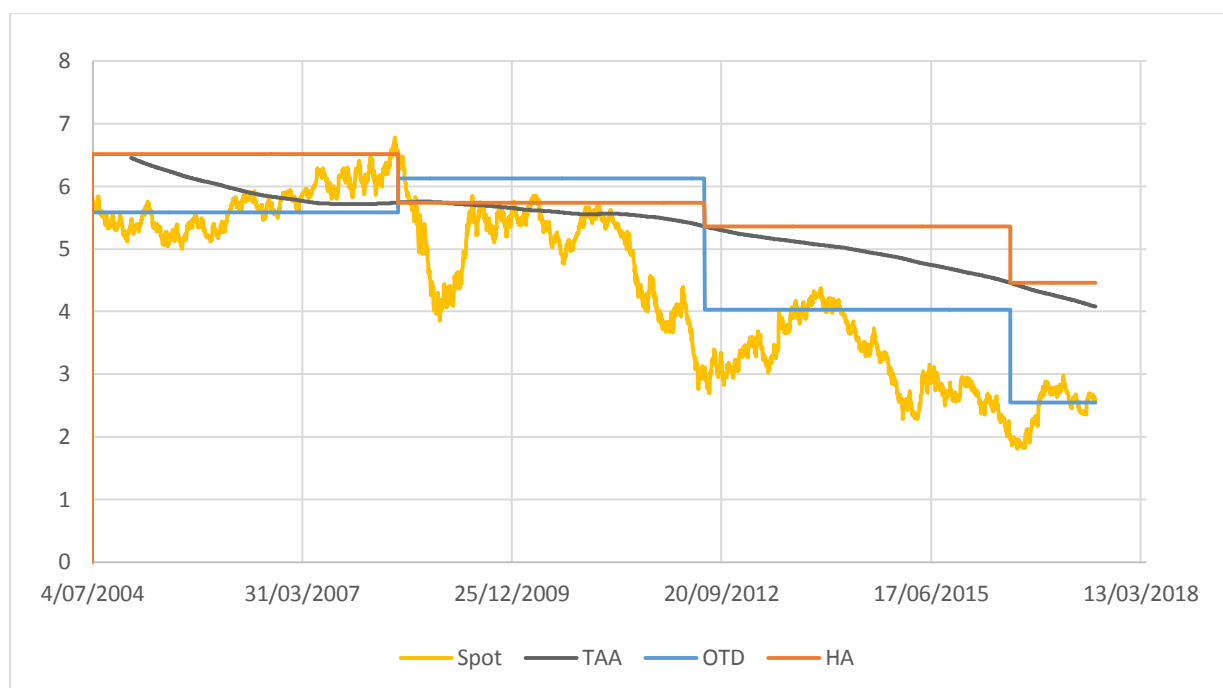
⁶ Essential Services Commission Victoria, Water Pricing Framework and Approach – Implementing PREMO from 2018, October 2016, p.27.

⁷ Standard and Poor’s Ratings Services, General: Corporate Methodology, November 2013, p.21.

In order to have an S&P investment grade rating, liquidity has to be judged as at least adequate. This implies having a sources to uses ratio of at least 1.2x over the upcoming 12 months (uses include debt maturities) and a positive sources less uses metric with a 15% decline in forecasted EBITDA.⁸ Similar to S&P, Moody's assesses liquidity by analysing a business's total sources and uses of cash over the next 12 months with an assumption that the business has no access to the capital markets. Moody's views liquidity as a strong driver of credit risk, for example ratings can be heavily affected by extremely weak liquidity that magnifies default risk.⁹ It is possible for businesses to issue longer debt or stagger the maturities and hedge the repricing risk in order to replicate the OTD approach and improve liquidity, however, this hedging strategy would incur additional cost estimated at 10bps for each swap for a BBB rated business and therefore would not be efficient.¹⁰

Finally, as chart 4 illustrates, debt allowance costs are most stable under the TAA, leading to less volatile customer prices. The OTD approach leads to potentially large step increases or decreases in debt allowance costs across determination periods. Consumers eventually bear the increased volatility of the OTD approach.

Chart 4: Comparison of Spot, OTD, TAA and HA 10yr Government Bond Rates



⁸ Standard and Poor's Ratings Services, Methodology and Assumptions: Liquidity Descriptors for Global Corporate Issuers, December 2014, pgs. 8 & 9.

⁹ Moody's Investors Service, Rating Methodology: Regulated Water Utilities, December 2015, pgs. 26 & 27.

¹⁰ Source: Westpac and ICAP

How we measure inflation and gamma

Question 25: *Do you agree with our preliminary view that our forward-looking forecast is the best method to deflate the nominal WACC?*

Treasury recommends the use of breakeven inflation (BEI) to deflate the nominal government curve in calculating the real risk free rate for each measurement date. BEI refers to the difference in yield between a nominal fixed rate bond and an inflation indexed bond of the same tenor using the Fisher Equation. The current methodology for the long term risk free rate uses 10 years history of daily nominal rates to derive a trailing average rate but a spot inflation estimate (based on RBA forecast and the mid-point of the RBA's target inflation band, not market estimates) to convert to a long term real risk free rate. The long term real risk free rate is used to calculate a real long term cost of debt and a real long term cost of equity. The real risk free rate should be based on where the government can issue debt in the market on a real yield basis at the time of measurement as the regulatory model is expressed in real terms. In other words, the market inflation expectation that is embedded in the nominal yield, BEI, should be measured every time a nominal rate is measured.

In the case of existing debt, the BEI gives us an estimate of inflation at the time a utility would have issued the debt. More importantly, it allows the calculation of an accurate estimate of the real yield a utility would have achieved if it had issued debt on the measurement date. For new debt, the BEI will also give us an accurate measure of where a utility can issue debt on a real yield basis at the time of issuance. Alternatively, the real yield can be measured directly from Commonwealth Capital Indexed Bonds and interpolated for the 10 year tenor. In the February 2017 WACC model update, IPART's current market data estimated inflation at 2.4% and the nominal risk free rate at 2.8%. This results in a real yield of 0.39%. Actual real yields for Commonwealth Capital Indexed bonds over the same period averaged 0.77% giving a BEI of 1.99%. Using the IPART estimation of inflation to deflate nominal rate results in an estimated real yield approximately 0.40% below actual real yields. Once the real cost of debt has been determined, a forecast for inflation (which can be BEI, inflation swap, RBA forecasts or any other measure) can be used to set interim revenue allowances. The ex-post adjustment will substitute actual inflation for forecast inflation.

Treasury would propose matching the BEI tenor to the nominal measurement tenor for consistency.

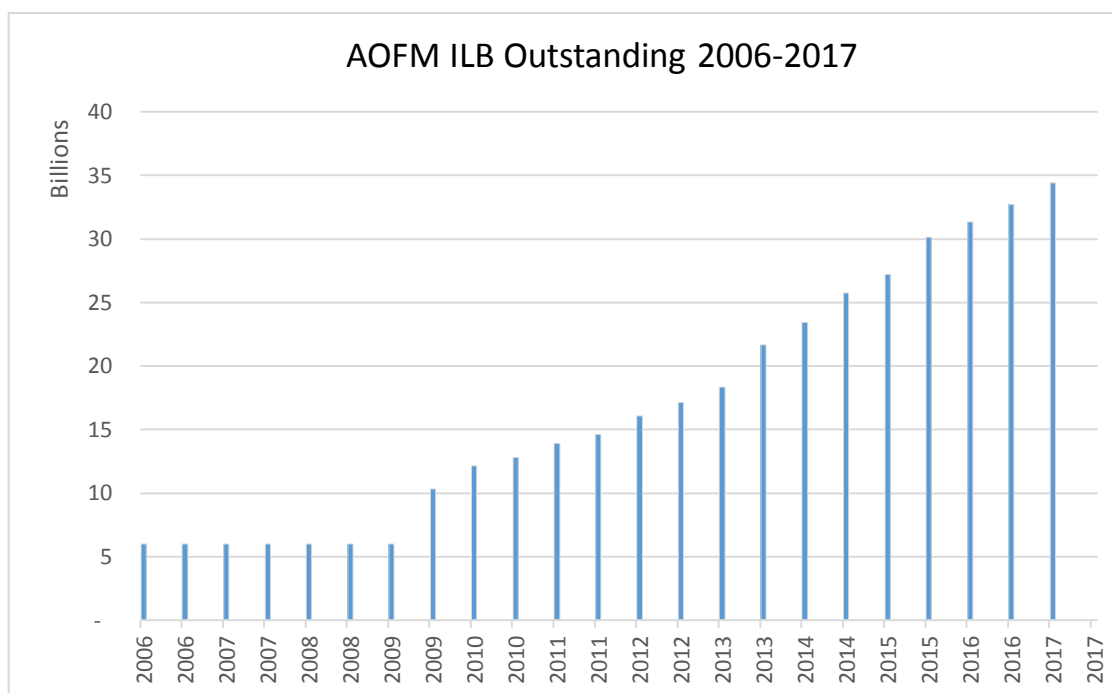
Advantages in the use of BEIs

- The use of BEIs ensure consistency between real and nominal yields. The current approach uses current RBA forecasts to estimate inflation for debt measures that occurred as long as ten years ago.
- BEIs reflect the current market expectations which feed directly into the price of debt at the time of the measurement. RBA and Economist forecasts do not reflect market movements and where on the day, debt can be priced. RBA forecasts are only updated once per quarter.
- Previously, IPART has expressed concern about the breadth of the inflation linked bond market and in 2009, adopted an approach using inflation swap market data as shown in chart 5. The AOFM now has a large inflation-linked debt program with over \$34bn par on issue. The AOFM target for inflation linked debt issuance for FY18 is \$5bn.¹¹ In the past, regulators were concerned about the lack of observable data and liquidity in the inflation linked bond market. Turnover over the period from FY12 to FY15 (last available data from AFMA excluding repo) averaged \$200m per trading day.¹² By the next water utility determination in 2020, a rich market data set will exist. The latest tender of inflation linked debt (8 August 2017) by the AOFM had a 7x coverage ratio and traded 2.5bps though the mid yield indicating a very, healthy demand for the debt.

¹¹ AOFM Note: Issuance of Australian Government Securities, May 2017.

¹² Source: Westpac and AFMA, 2015 Australian Financial Markets Report, p21. 2015.

Chart 5: AOFM Historical Outstanding Par Amount of Inflation Linked Debt



- The use of BEIs would remove the over/under compensation when inflation expectations remain persistently above or below the mid-point of the RBA target band. Current market conditions have remained below mid-point for an extended period of time. According to the RBA’s Statement of Monetary Policy issued August 2017, “Core inflation remains low in many economies and has declined in recent months in some large, advanced economies...” There is evidence that market inflation expectations have diverged from the RBA target and are expected to stay that way for a prolonged period of time.
- RBA, Bloomberg, Yieldbroker, Thomson Reuters publish data on indexed government debt.
- The OFGEM and ORR of the UK use the BEI approach to deflate nominal yields.¹³ OFWAT and the UK CAA commissioned CEPA to advise on the approach to the cost of debt and CEPA have recommended using the BEI approach.

Past criticism in the use of BEIs and mitigants

- Market data prior to 2010 is not as robust as today. AOFM restarted their inflation-linked bond program in 2009. Prior to restarting their program, the AOFM had one benchmark inflation linked bond outstanding. To bolster the data prior to 2010, IPART could look at TCorp’s linker program for BEIs or at the ZCIS market.
- Inflation and liquidity premiums are present in inflation-linked bonds. The inflation premium is the premium demanded by investors bearing the risk of inflation in nominal bonds. This premium will overestimate inflation. The liquidity premium is the premium demanded by investors that hold inflation linked bonds versus more liquid nominal bonds. As the AOFM has committed to a robust linker market comprising 10-15% of their stock of bonds outstanding, any liquidity premium would likely be small.¹⁴ Regardless of the premiums inherent in inflation-linked bonds, the inflation linked bonds give a direct measure of where issuers can raise funds in the inflation market. Use of the BEI allows the utilities to recover their efficient costs which include costs from investor biases.

¹³ Cambridge Economic Policy Associates Ltd, Alternative Approaches to Setting: The Cost of Debt for PR19 and H7, August 2016, pgs. 161 & 243.

¹⁴ AOFM Note: Australian Government Debt Future options for CGS Market Development – Presentation to the ABE Forum, June 2013.